

Built Pedagogy

Universities and their potential to transform not only themselves but immediately adjacent areas are an essential consideration in their planning and design. The future of learning will rely more and more on the nature and quality of these linkages.



1

Introduction

Foster + Partners is delighted to submit our expression of interest for the Architectural Design Competition for a new building for the faculty of architecture building and planning at the University of Melbourne. This is an exciting opportunity to add to the life of the Parkville Campus with an integrated building that not only represents outstanding architectural merit, but also offers a new social and academic focus for the campus community.

Foster + Partners has an extensive and international portfolio of education projects. This work ranges in scale from the design of individual buildings within existing (and often historic) campuses, such as the Faculty of Social Studies at Oxford University, the Clark Center at Stanford University and the Institute of Technology at Cranfield University, as well as the masterplanning and reconfiguration of entire campus developments. Our planning work includes Imperial College and Stanford University. In addition, we have also designed entirely new campuses, such as the Petronas University of Technology in Kuala Lumpur.

Our design approach is founded on a commitment to sustainability as a core principle and a belief in flexibility, integration and the open exchange of ideas. Many of our past projects are sensitively integrated into existing campuses and seek to establish new routes and new sites for interaction as well as outstanding research facilities.

We understand that the Architecture and Old Commerce buildings have significant historic significance. Foster + Partners has a clear philosophy about the sensitive treatment of historical structures and how new architecture can be the catalyst for the revitalisation of old buildings.



2

Integrating natural and built landscape

Petronas University of Technology (2) will be the region's largest academic centre for the study of civil, mechanical, chemical and electrical engineering.

The design responds to the physical landscape of the site and to the weather patterns particular to this part of the world. While it can be intensely hot in the sun, in the monsoon season the skies open every afternoon to bring torrential rain. To allow students to move around the campus while shaded from the sun or protected from downpours, crescent-shaped canopies protect the pedestrian paths that wind around the site. These canopies intersect to encircle a landscaped park. Where possible, the planting and terrain have been left in a natural state.

Visibility of staff and students

The Clark Center at Stanford University (1,3) was the result of a close collaboration with the Bio-X research programme, which prefaced a sea-change in the way that research is carried out. In contrast to the traditional laboratory facility with its closed rooms and corridors, the Clark Center is open and flexible: external balconies replace internal corridors and laboratory layouts can be reconfigured at will. All benches and desks are on wheels and can be moved to allow ad-hoc team formation that can respond easily to fast-evolving research needs. This versatility is further enhanced by workstations that plug into an overhead system of exposed services with flexible connections.

Externally, the forum at the heart of the courtyard is used for exhibitions, concerts and other events, to encourage people to pass by the laboratory spaces. It acts as a social magnet for the University, encouraging students, lecturers and researchers from diverse disciplines to mix.



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Activating campus and community

We believe that universities have the capacity to act as social generators. The improvement of the Parkville Campus has the potential to create a knowledge city, attracting social engagement between the campus and the community. A parallel strategy between the city and the university could include the development of specialist programmes with industry partners and inter-disciplinary programmes, which allow academics and the wider population to work together. In urban terms, the campus and the city can form a unified whole that is more than the sum of its parts, forging complimentary development. The surrounding context becomes more oriented to the university while creating fertile ground for the expansion of businesses associated with the university. Imperial College is a good example of this approach. Foster + Partners' masterplan for the campus' renewal identified key sites for redevelopment and environmental improvement. To date, four new buildings have been completed: the Sir Alexander Fleming Building, the Flowers Multi-Disciplinary Research Building, the Faculty Building, and the Business School and we are currently working on the Science and Engineering Complex.

Our approach has been to create buildings with active facades - they are open and permeable while also providing exciting "shop fronts" for the faculties and departments they accommodate. These buildings generate a lively dialogue with the public realm. We have also achieved this with a number of our cultural buildings. The Winspear Opera House in Dallas literally brings the theatre to the audience with its inviting canopy and artists' square and the Sage Gateshead in Newcastle, UK, has created an urban living room, where the community can experience music informally in the city's social hub.

The Academic Environment

“Attention to detail never diminished and care was taken throughout the project to respond thoughtfully, communicate extensively and return professional recommendations that added value and preserved client objectives.”
David Neuman (client, Clark Center).



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University for the 21st Century

The technological revolution has already changed work patterns and this naturally extends into the way that we learn. The freedom and ability that the new technology brings transforms yet again what a university needs to be. It is now possible to be private in a crowd or globally connected from a 'monk cell'. This initially risked an increase in individual isolation, working alone, working from home and a diminishing need for conventional teaching patterns, but recognition of this need for human exchange has become sharply more apparent. Creativity and ideas develop faster through contact. More scientific breakthroughs have been made in the laboratory restaurant than on the lab benches themselves. In terms of planning this intensifies the need to consider interactive spaces within our buildings and the spaces between them. Such space will increasingly need to be incorporated into the planning programs and budgets of both campus design and individual buildings. The relationship of densities to sustainability is probably the overriding factor in university design and planning. How this is achieved in new and existing universities is central to future progress.

High quality research

Stanford University (2,3) has long been recognised as a centre for clinical excellence. The Center for Clinical Science Research (CCSR) provides the School of Medicine with state-of-the-art modular laboratory and office space for its programme of research into cancer and other diseases. Its design responds to emerging trends for interdisciplinary biomedical research, encouraging intercommunication and providing flexible, light-filled working spaces in which research teams can expand and contract with ease.

The brief called for close proximity between laboratories, core support areas and offices. Two symmetrical wings frame a shaded courtyard, which provides a comfortable environment for social interaction and has become both the social heart of the building and a popular route through the campus. Offices overlook the courtyard and a stand of bamboo provides occupants with a degree of privacy. Environmental systems take advantage of Palo Alto's climate, which is among the most benign in the United States.

Collaborative working

The Sir Alexander Fleming Building at Imperial College (4), London, represents a major advance in medical research facilities, encouraging social and intellectual interaction to an unprecedented degree. At its heart is a research forum on five levels, where research work not directly associated with the laboratory takes place. It provides an open arena where researchers can meet their colleagues from all disciplines and all levels, and forms the hub of the building's primary circulation system. Standard and specialist laboratories are wrapped around the forum, as are undergraduate teaching spaces, administration and a café.

The forum widens as it rises, forming open-plan terraces for research students on the second and fourth floors, where the perimeter is lined with study carrels. Sculpted rooflights introduce a combination of north light for optimum working conditions and controlled sunlight to bring sparkle into the building.

Modular laboratories are designed to be used by any microbiologist and are flexible enough to allow changes in use or to adapt to new techniques.

Flexible working styles

Building within a historical city such as Oxford requires great contextual sensitivity – an awareness to a proposed building's immediate neighbours and character that was made all the more apparent with the commission for the University's new building for the Social Studies Faculty (5), standing as it did alongside a number of fine listed buildings. Accordingly, the design attempted to emulate the enduring quality of much of the city's traditional architecture through its simplicity and integrity.

The resulting three-storey building provides a new focus for the Faculty, replacing accommodation previously scattered throughout Oxford. On the ground floor is contained a library and IT training rooms, while faculty offices, seminar rooms and a staff common room are located on the two floors above. Besides the Faculty building itself, the commission also extended to the design of low-cost flexible furniture systems which, in the form of reception desks, meeting tables and occasional tables, are utilised throughout the building's internal spaces.

Individual research centre

Cambridge University has the largest law school in Britain, with 800 undergraduates and 200 postgraduate students. Combining its own sense of tradition with a forward-looking commitment to change, the Faculty of Law (6,7) required a new building that would provide state-of-the-art facilities for teaching and research, comprising the Squire Law Library, five auditoria, seminar rooms, common rooms and administrative offices.

This low density, green garden context is the essence of Cambridge. The challenge was to preserve this natural setting and to minimise the building's apparent size. The response was to create a rectangular plan cut on the diagonal to follow the geometry of the neighbouring History Faculty and pedestrian routes across the site. The building has a relatively small footprint, yet provides 8,500 square metres of accommodation without exceeding four storeys. This was achieved by digging the auditoria below ground, while the curving glass of the north facade helps the building to recede visually.

The Design Studio



1

Interaction between staff and students

The new Imperial College Business School (1) acts as an entrance to Imperial College's South Kensington campus on Exhibition Road. The project marks a continuation of the Masterplan undertaken by Foster + Partners in the early 1990's and the fourth project by the practice on the campus. The new home for the School was made possible by a donation from alumnus Gary Tanaka.

Sitting amongst existing 1960's institutional buildings and the Grade II listed Royal School of Mines, the Tanaka Business School houses both teaching and research/office space. The School has been divided into two parts, the teaching element is within a purpose built new facility, and the office areas within three refurbished floors of the existing Royal School of Mines.

The entire new-build element, together with a new College entrance, is cloaked in a protective envelope, creating a year round usable atrium space within. The base of this atrium space contains a social Forum space which is the social hub of the new School. Out of the Forum space rises a dramatic six-storey stainless steel drum containing circular lecture theatres which are based on the interactive Harvard Business School model. The vertical arrangement both ensures inhabitants of the existing building behind are not adversely affected, whilst also providing access to the upper floors of office accommodation in the Royal School of Mines.

The adjacent ground level entrance space serves as a new 'front door' for the college and provides exhibition space creating a new shop window for the college and a chance to showcase its achievements in the fields of science, technology and medicine.



2

Immersion in professional culture

Our own office at Riverside has a studio culture and we have an annual "graduate show" - showcasing the work of all of our Part 1 employees - which demonstrates our commitment maintaining links with education, innovation and fresh ideas. It is this approach to our own working environment which provides us with a unique insight into the Faculty's requirements for an outstanding design studio environment. Our main studio, is entered via steps through a toplit galleried space and forms a 60-metre-long, double-height volume. Along its southern edge a mezzanine contains meeting and presentation spaces together with a library and image bank, while below is a state-of-the-art model shop.

Everyone in the studio, whatever their job description, has a place at one of the long workbenches; the arrangement is very fluid with no division between design and production. Most offices keep visitors at arm's length. The Foster studio, by contrast, is completely open. Visitors can enjoy the bar - the social focus of the office - while meetings, whether formal or informal, occur in the midst of the creative process itself.



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Formal and informal teaching

The Thomas Deacon Academy (3) is the largest of the practice's new schools. The result of a close collaboration between Foster + Partners, the Academy's Sponsors and Peterborough Local Education Authority, the fulfilment of the academy's needs has been integral to the design concept. Thomas Deacon has a unique university system, where lessons are complimented by lectures, seminars and tutorials.

The building comprises two ribbons of classrooms that enclose a central concourse sheltered beneath a dramatic, light transmitting roof. This central space is the academic and social heart of the school and accommodates a lecture theatre at ground level and a library above. The curves of the perimeter classrooms create six distinct three-storey colleges, each containing teaching areas and communal spaces. This arrangement breaks down the scale of the building, both physically and socially.

This design creates a dynamic between the more public, social areas of the school that relate to the central concourse, and the quieter spaces that look out to the playing fields and the leafy surroundings. Each college has a glazed show-case classroom which acts as its shop window. The social hub is its 'Network Study Area' which provides dedicated space for social interaction and collective or flexible study. The main entrance, located at the westerly end of the building, sits between the sweep of two curves, welcoming students inside. A crescent-shaped reception desk creates a circular waiting area at the foot of a curved staircase which rises to balconies and the library overlooking the concourse.

ICT integration

We work closely with ICT consultants to keep abreast of constantly evolving technology and to ensure that the project benefits from this specialist expertise. Foster + Partners' diverse portfolio has enabled us to gain experience of integrating ICT requirements - not only in universities - but in many other building types. The issues and challenges are very often similar. As far back as 1971 when we designed a building for Willis Faber, the practice pioneered the use of raised office floors, anticipating the revolution in information technology. When Willis Faber introduced extensive computerisation, it was able to do so with minimal disruption. We have continued to design for flexibility for 40 years.

The Living Building



1

40 Years of Sustainability

While architects cannot solve all the world's ecological problems, we can design energy efficient, socially responsible buildings and we can influence transport patterns through urban planning. Importantly, sustainability also implies a way of building that is sensitive to its location and the culture that has shaped it. Although we work on a scale unimaginable 40 years ago, sustainability is an issue that has driven the work of the practice since the early days and continues to inform what we do today. It is a thread that runs through from the very beginning to the present and on into the future.

Sustainability requires us to think holistically. The location and function of a building; its flexibility and life span; its orientation, form and structure; its heating and ventilation systems and the materials used; together impact upon the amount of energy required to build and maintain it, and travel to and from it. Only by finding new solutions to these problems can we create sustainable forms of building for the future.

This is something that has motivated us as designers from the very beginning and offers one of our greatest challenges going forward. To help us make new advances in sustainable design we have within our studio our own Research and Development Group, which includes a Sustainability Forum. The Forum was established to consolidate and develop the practice's knowledge base and has allowed us to develop better access to information on new products, materials, and research findings. In many of our projects we have pioneered solutions using renewable energy sources, which offer dramatic reductions in pollution.

The most recent example is the Masdar Initiative in Abu Dhabi (1), a carbon neutral and zero waste community that will create a global model for future energy security within a wholly sustainable framework.



2

Monitoring and Controlling Sustainability

Langley Academy near Slough is an exemplar of sustainable design, with its environmental performance showcased by the fabric of the building itself. The building's organic curved form is wrapped in timber cladding, which encloses the two wings that extend from the main reception area and adjacent sports hall. A full-height central atrium visually connects the teaching areas with the dining room and playing fields beyond and also functions as an exhibition space. On plan, the building's compact form maximises space, while reducing its energy demands. Oriented to enhance natural light and ventilation, the building itself serves as a tool to teach students about energy consumption and the environment. They can see the solar collectors on the roof and the workings of the exposed plant room (2) via a glass panel, as well as the network of pipes that illustrate how energy is generated and carried through the building. Rain water is collected and stored and grey water filtered for reuse in sanitation and irrigation; and a system of horizontal louvers provides shade.

Internal Spaces

The new library for the Faculty of Philology (3) is contained within a naturally ventilated, bubble-like enclosure, which is clad in aluminium and glazed panels and supported on steel frames with a radial geometry. An inner membrane of translucent glass fibre filters the daylight and creates an atmosphere of concentration, while scattered transparent openings allow momentary views of the sky and glimpses of sunlight. The serpentine profile of the floors creates an edge pattern in which each floor swells or recedes with respect to the one above or below it, generating a sequence of generous, light-filled spaces in which to work.



3

Designing for local climate

The Masdar Institute (MI) (4) embodies the principles and goals of the Masdar City Masterplan to create a prototypical and sustainable city, one in which residents and commuters can enjoy the highest quality of life with the lowest environmental footprint. All developments within the city are to be carbon neutral and zero waste.

The buildings are oriented to provide optimum shade and reduce cooling loads. Shaded colonnades at podium level exploit the benefits of exposed thermal mass and transitional thermal spaces are integrated to mediate between internal and external zones. Facades are designed to respond to their orientation and photovoltaic installations on every roof are combined with carefully positioned photovoltaic panels to shade streets and buildings. Green linear parks adjacent to the buildings capture cooling night-time winds, with wind gates employed to control hot winds. The ventilation strategy for the streets and night time cooling is further enhanced by wind towers and courtyards.

Sustainability is about trying to develop a holistic way of life that has minimum impact on the environment in which we live and its precious and diminishing resources. The whole subject is immensely complex and if we are to be successful, will require a re-appraisal of almost everything that we do.



4

Equally, our design for a school in Frejus, France, was developed in response to its site and to a low-energy concept for the Mediterranean climate. The linear plan keeps active building services to a minimum. Interestingly, in paring down these services, the most effective ecological diagram was seen to correspond to the most obvious social diagram, with a linear 'street' forming the heart of the school both as a natural air movement system and a central circulation space for people. Bisected by an entrance hall, the street, at this point, forms a kind of village square, with its own café and casual seating, acting as a focal point for the students. Fresh air is pulled through the street, while the layering of the roof, with a light metal shield protecting the concrete vaults from the sun, also encourages a cooling flow of air - a technique found in traditional Arabic architecture. Further enhancing the natural ecology of the building, a solar chimney effect allows warm air to rise through ventilation louvres, while brises-soleil along the southern elevation provide a broad band of dappled shade.

Throughout, materials were chosen in response to the climate and to exploit local construction expertise, notably the exposed concrete frame, which comprises simple repetitive elements and continues the French tradition of high-quality in-situ concrete.

Capabilities and Process

“Representing an advance in medical research facilities, the building has successfully achieved long-term flexibility in response to changes in microbiological research. It also encourages social and intellectual interaction, whilst sensitively responding to the unique context of Imperial College’s historic campus in South Kensington, London.”
David Brooks Wilson - College Property Advisor, Imperial College



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3

Collaboration of Consultants

Foster + Partners has unrivalled experience of leading world class design teams, and key to the success of these complex collaborations, is a productive and dynamic partnership with the Client and a design process that is inclusive, well-communicated and takes full advantage of consultants’ expertise as well as the demands of relevant stakeholders. Over 40 years, we have built strong relationships with a wide range of excellent consultants, and we try to involve them at the earliest stages of any project.

Working with PTW as a local collaborator

Foster+Partners has ongoing collaborations with Local Architects and we have a successful proven track record of collaboration. We have a tried and tested methodology for delivering projects locally. For this project, we propose a partnership with PTW, with whom we have worked previously on the successful delivery of Regent Place (2,3) and Deutsche Bank Place (1) in Sydney.

This association acknowledges Foster + Partners’ international design leadership and defers decision making authority to the practice, on conceptual and schematic design of the building envelope and the masterplanning context for the day-to-day decisions. PTW’s expertise in programming and design, project management, construction documentation and administration is recognised, and it has authority on these aspects of the project for the day-to-day decisions.

The intention of this arrangement is to share the architectural design responsibility between PTW and Foster + Partners, which takes the lead in aesthetic design throughout the project and will maintain permanent site presence through construction and input into Contract Administration.

PTW will utilise local knowledge of city authorities and processes to lead the administrative responsibilities and to underpin the design development, assuming responsibility for construction documentation and satisfying the registration requirements in the State of Victoria.

Previous Collaborative Projects

Both Regent Place (2,3) and Deutsche Bank Place (1) illustrate our ability to design outstanding buildings in Australia, together with PTW. Our collaboration was founded on a strict and well managed programme of regular monthly face to face meetings in Australia, weekly video conference calls and daily communications, followed by full time site presence. This ensured a seamless and successful journey through from inception to completion of the project

We found that consistency of personnel in both countries and a strong working relationship benefited the final product. Having completed the process twice (in Australia) and numerous times across the Globe, several lessons on how to streamline and improve the process have been learned and will be implemented to achieve optimum team performance.

We are also presently engaged on a number of masterplanning projects and mixed-use developments in Melbourne which are in the early design concept stages. We are therefore familiar with the city and bring a strong interest in the local context - both physical and cultural.

Client Reference

Dr Martin Knight
Chief Financial Officer, Imperial College
m.knight@imperial.ac.uk



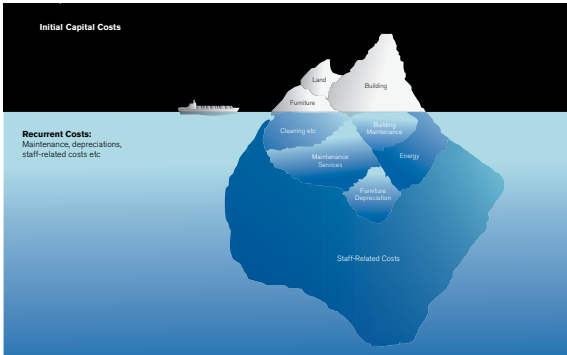
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Collaboration with the Faculty

The practice approaches every project by learning about the needs generating the building and this is particularly important when designing for academic institutions that may reflect a range of opinions and cater to a diverse social demographic. Many of these projects have been driven by parallel imperatives to forge a bold academic programme as well as to regenerate campuses. Foster + Partners has unrivalled experience of co-ordinating design processes that are inclusive, well-communicated and take full advantage of consultants’ expertise as well as the demands of relevant stakeholders, the Client and building users.

The Leslie L Dan Pharmacy Building at the University of Toronto that was successfully realised in 2006 is perhaps a good example of our approach. The Leslie Dan Building for the Faculty of Pharmacy at the University of Toronto (4) provides state-of-the-art facilities for more than 1000 undergraduate and postgraduate students, creating the largest pharmacy faculty in Canada. The multi-functional building responds to the expansion of the pharmacy department and to recent changes in the teaching of the subject and centralises all teaching, research and administrative spaces within a single structure.

The client group was broad and included the university management and the Faculty of Pharmacy each of which had multiple stakeholders. The university management included cleaning, maintenance, landscape, security, catering and waste control. The faculty included both undergraduate teaching and post graduate research. As with all projects but especially those with multiple stake holders there can be conflict in perceived spatial needs of each individual voice and the overall project goals to remain within budget, timeframe, site constraints, planning as well as ensuring that the design of the building fulfils the requirements of the brief and responds appropriately to each of these stakeholders. To ensure success in interpreting the brief we engaged dialogue with the University that included design charrettes with the post graduate and undergraduate management. Through this process of dialogue we were able to establish a clear hierarchy of decisions that included must haves, nice to haves and others. We were then able to interpret the brief appropriately and through visual diagrams explain the complex relationships between spaces and function.



Cost control

Foster + Partners takes cost control extremely seriously and has a proven track record of completing projects within the agreed budget. A fundamental principle which we follow on all our projects is that cost must inform design. It is a matter of principle for us that each of our projects should be within its budget. It is therefore important that we are given accurate cost advice at all stages as the design develops, which leads to a realistic, agreed, cost plan that can be monitored and refined throughout the project. We believe that we must provide the best quality for the budget available, pay attention to detail and produce achievable designs and specifications. For this reason we have formal reviews of drawings at key stages of the design process, where the design is given a full critique by peers and senior practice designers - the Design Board - at the critical conceptual and schematic design stages. 80% of the strategic decisions on any project are made in the first 15% of the process, any poor decisions at this stage are extremely difficult and costly to rectify later.

Timescale

We have a full time team of staff employed from within the construction industry that will produce the necessary schedules for the production of design information, and offer advice through all stages of the project.

In the early stages of programming, the team will generate a detailed programme identifying milestone dates, tasks, and the parties responsible for completing each given task. This programme will offer a comprehensive view of the project and it will be evaluated and updated monthly.

After submittals and at the end of each month, the team will review the schedule for compliance and suggest corrective measures should problems arise.

Merit

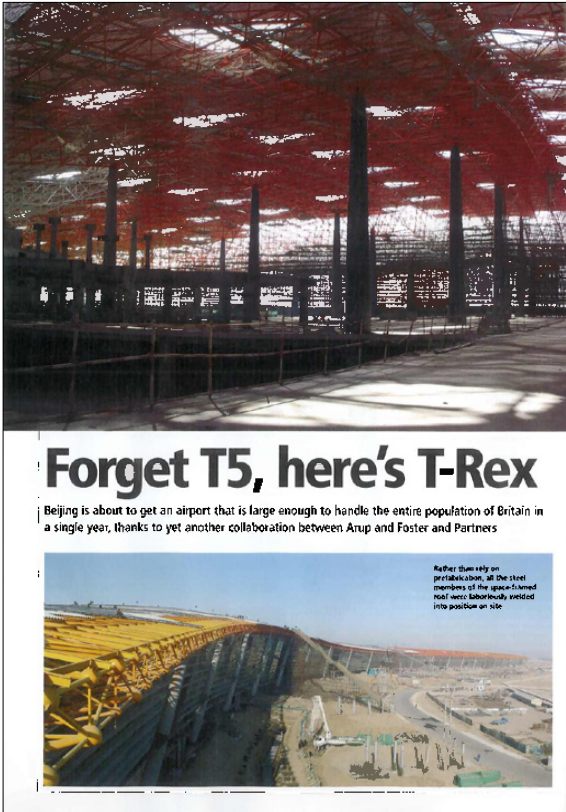
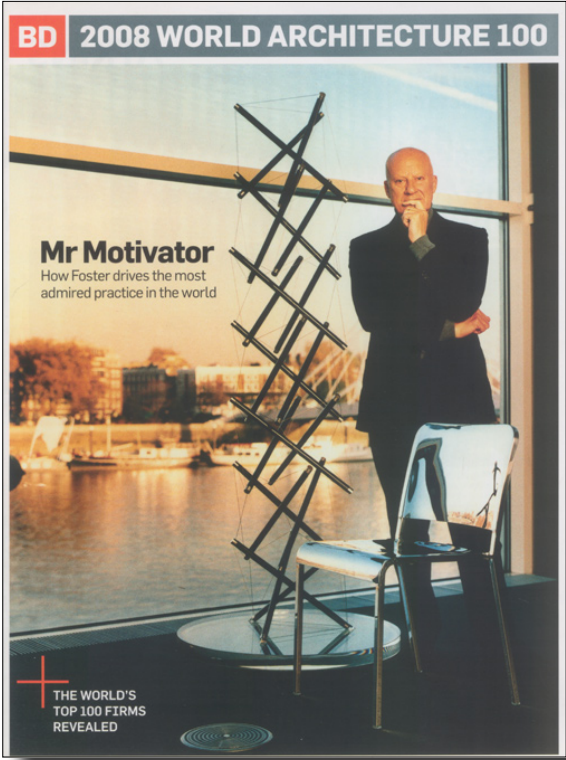
Foster + Partners: A Global Brand

Foster + Partners is an international studio for architecture, planning and design led by its founder and Chairman, Lord Foster. The practice's work ranges in scale from the largest single building on the planet, Beijing International airport, to its smallest commission, a range of door furniture. The scope of its work includes masterplans for cities, the design of buildings, interior and product design, graphics and exhibitions. These can be found throughout the world, from Britain, Europe and Scandinavia to the United States, Hong Kong, Japan, China, Malaysia, Saudi Arabia and Australia.

The studio has established an international reputation with buildings such as Swiss Re's London Headquarters, Hearst Headquarters in New York, Millau Viaduct in France, the new German Parliament in the Reichstag, Berlin, The Great Court for the British Museum, Headquarters for HSBC in Hong Kong and London, Commerzbank Headquarters in Frankfurt, the Metro Bilbao, the Carré d'Art Nîmes and Research Centres for Stanford University, California. There is also a strong interest in city planning and the infrastructure of communication.

Selected Awards

- British Construction Industry Supreme Award - Stansted Airport (1991)
- RIBA Best Building of the Year Award - Sackler Galleries (1993)
- British Construction Industry Supreme Award - Cranfield Library (1993)
- American Institute of Architects Gold Medal to Sir Norman Foster (1994)
- Queen's Award for Export Achievement (1995)
- RIBA Stirling Prize - American Air Museum, Duxford (1998)
- Sir Norman Foster Laureate of the 1999 Pritzker Architecture Prize (1999)
- Deutscher Architekturpreis - Reichstag, The New German Parliament (1999)
- Praemium Imperiale Award for Architecture – Norman Foster (2002)
- RIBA Stirling Prize – 30 St Mary Axe (2004)
- RIBA Stirling Prize Channel 4 'People's Choice' Award - McLaren Technology Centre, Woking (2005)
- Aga Khan Award for Architecture - Petronas University of Technology, Malaysia (2007)
- AJ100 International Practice of the Year (2008)



Since its inception the practice has worked in 73 countries, has received more than 500 awards and citations for excellence and has won 86 national and international competitions.

David Nelson

MA (RCA) Hon FRIBA

Senior Executive, Joint Head of Design

David Nelson is senior executive, sharing overall design responsibility for all projects as joint Head of Design. He began working at Foster Associates in 1976, and some of his most important early projects included the Sainsbury Centre for Visual Arts. Since becoming a partner in 1991, he worked on the New German Parliament in the Reichstag, as well as a number of transport projects, including Bilbao Metro in Spain and Canary Wharf Underground station in London. Recent projects include the Petronas University of Technology in Malaysia, Stanford University Laboratories in California and the McLaren Technology Centre in Woking.

Michael Jones

BA (Hons), MA (RCA), ARB, RIBA

Partner, Deputy Group Leader

Michael Jones joined Foster Associates in 1986. He was also one of two principal project architects on the Law Faculty for the University of Cambridge.

In 1997 he became project director on the detail design and procurement of the Great Court at the British Museum.

Since 1999 he has been working on the large-scale masterplan and designs for the Museum of Fine Arts Boston. He is also the partner in charge of the Science and Engineering complex at Imperial College, London and the Winspear Opera House in Dallas. He became a partner in 2004 and is deputy leader of Group 4 working on a range of international projects.

Andrew Andersons AO

Principal Director, PTW Architects

B.Arch (Hons), M.Arch Yale

Andrew Andersons AO has been involved with many major architectural projects in Australia and abroad in a professional career spanning over forty five years. From the late 1960's to 1988 Andrew worked on numerous public buildings in NSW. In 1983 he was awarded an Officer of the Order of Australia for services to architecture.

Since joining PTW as a director in 1989 he has continued with major projects for the Arts as well as in the design of major residential and commercial projects.

Stefan Behling

Professor Dipl.-Ing Arch

Senior Partner, Group Leader

Stefan Behling joined Foster + Partners in 1987 and later became a director of the practice as well as managing director of Foster + Partners' German offices. A specialist in ecology, sustainability and energy conservation, he has worked on a number of projects that have pioneered new techniques for energy management, including the new German Parliament at the Reichstag in Berlin and the headquarters for Commerzbank in Frankfurt.

More recent projects include City Hall, the Greater London Authority headquarters, the Free University of Berlin and a competition scheme for the University of Kuwait. As Group Leader he takes responsibility for an international portfolio of education, commercial, residential and cultural projects.

Graeme Laughlan

Ba Hons, BSc Hons, Dip Arch, ARB, RIBA

Associate

Graeme Laughlan joined Foster + Partners in 2004, initially working on two UK schools - Folkestone Academy, and shortly afterwards becoming a key member of the project team for the Thomas Deacon Academy, Peterborough.

While working on the Thomas Deacon Academy he gained his RIBA Part 3 Professional Qualifications and was involved in internal information sharing through Foster + Partners 'Lessons Learned' and 'Schools Co-ordination' Groups. He was then job captain for the £22m Corby Business Academy, Northamptonshire, involved in all client, construction and contract aspects of the Project. Completion was September 2008. He was promoted to associate in 2007.

Diane Jones

Principal Director, PTW Architects

B.Sc (Arch) B. Arch (Hons), M. Arch

Diane Jones brings a strong grounding in heritage, design and working with civic buildings. Diane has extensive experience in managing large and diverse consultant teams and working with multi-user clients such as local councils, state government departments and educational institutions to establish and maintain clear design goals and quality for the project duration.